

**ABSTRACT OF THE DISCLOSURE**

Systems, methods and computer program products for guiding selection of a therapeutic treatment regimen or a preventive therapeutic treatment regimen are disclosed. The method comprises (A) providing to a computing device comprising a first knowledge base comprising information about a plurality of different methylation statuses at selected sites of the DNA in cells with a known disease or medical condition and/or healthy cells, a second knowledge base comprising a plurality of expert rules for evaluating and selecting a type of disease or medical condition based on the methylation status at selected sites of the DNA of a patient, (B) generating in said computing device a ranked listing of diseases or medical conditions based on the information about the methylation status at selected sites of the DNA of the patient, the first knowledge base and the second knowledge base.